

A diagram of a hexagonal lattice structure. The lattice is composed of hexagons, some of which are labeled F1, F2, or F3. The labels are distributed across the lattice. Black dots are placed at various vertices of the lattice. A specific vertex is highlighted with a black dot and a label F2, with a double-headed arrow pointing to it from the left.

Figure 1 illustrates a network architecture for mobile communication. The system includes two mobile stations, 10a (Voice) and 10b (Data), which connect to a core network. The core network is divided into two main sections, 8a and 8b. Section 8a (Circuit Switched Network) includes a Serving MSC/VLR (12), a Gateway MSC/VLR (14), and a Base Station (BS) (Circuit) (26). Section 8b (Packet Switched Network) includes a Base Station (BS) (Packet) (26), a Base Station Controller (BSC) (27), and a Serving GPRS Network (SGSN) (18). The SGSN (18) is connected to a Gateway GPRS Network (GGSN) (22) via a Backbone IP Network (20). The GGSN (22) is connected to an External IP Network (24). The core network also includes a Home Location Register (HLR) (30) and a GPRS HLR (32). Handwritten annotations include '8a' and '8b' in parentheses, and '28a' and '28b' near the BS (Circuit) and BS (Packet) respectively. A dashed box labeled '20' is around the Backbone IP Network. A handwritten '2' with an arrow points to the GPRS HLR (32).

FIG. 3

Time Group 1

Time Group 2

Time Group 3

Time Group 4

TS	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
Frame																																
0	B(0)								B(0)								B(0)								B(0)							
1	B(0)								B(0)								B(0)								B(0)							
2	B(0)								B(0)								B(0)								B(0)							
3	B(0)								B(0)								B(0)								B(0)							
4																																
5																																
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8																																
9																																
10																																
11																																
12																																
13	C(3)								C(3)								C(3)								C(3)							
14	C(3)								C(3)								C(3)								C(3)							
15	C(3)								C(3)								C(3)								C(3)							
16	C(3)								C(3)								C(3)								C(3)							
17																																
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20																																
21																																
22																																
23																																
24																																
25	PFCCH								PFCCH								PFCCH								PFCCH							
26	C(6)								C(6)								C(6)								C(6)							
27	C(6)								C(6)								C(6)								C(6)							
28	C(6)								C(6)								C(6)								C(6)							
29	C(6)								C(6)								C(6)								C(6)							
30																																
31																																
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36																																
37																																
38																																
39	C(9)								C(9)								C(9)								C(9)							
40	C(9)								C(9)								C(9)								C(9)							
41	C(9)								C(9)								C(9)								C(9)							
42	C(9)								C(9)								C(9)								C(9)							
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51	PSCH								PSCH								PSCH								PSCH							

FIG. 2

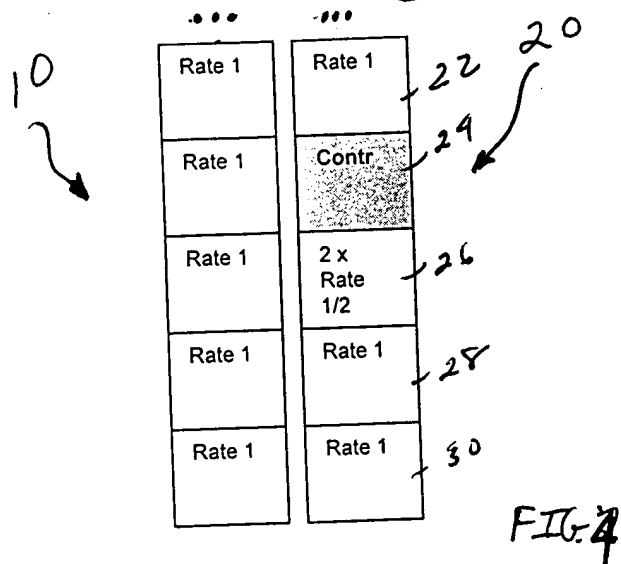
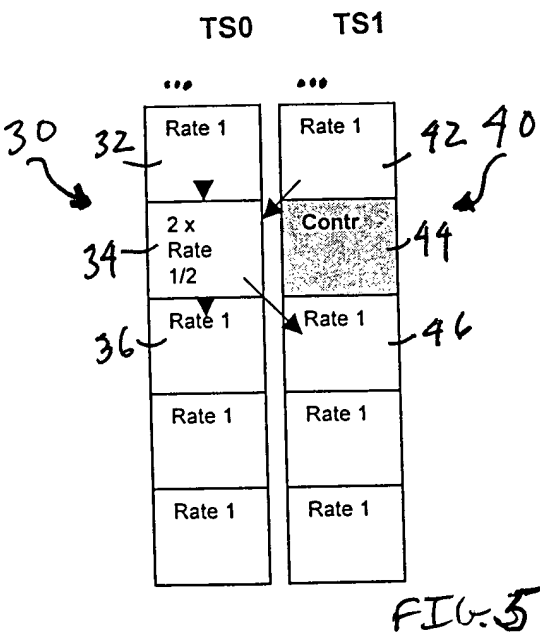
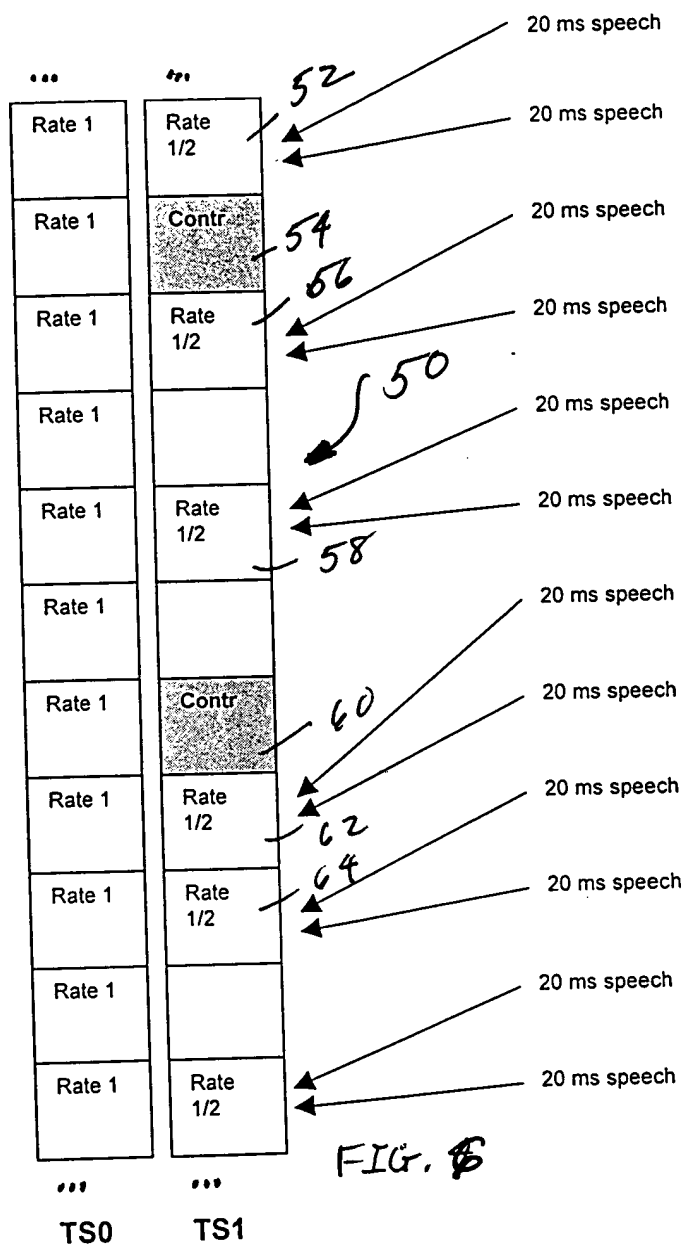


FIG. 4



TS0 TS1



TS0 TS1